

OPTIMAL INITIAL RASTERIZATION STARTING POINT

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ABSTRACT OF THE DISCLOSURE

A frame buffer is divided into tiles of, for
10 example, 32 by 32 pixels. Triangles (and portions
thereof) that are within a given tile are rasterized
one triangle at a time into the tile location. This
process repeats for each tile in the image frame. A
sorting circuit generates control bits representing a
15 vertical order of the vertices of a current triangle.
A series of multiplexers vertically sorts the vertices
bases on these control bits. A region calculation
circuit generates region bits representing a location
each of the vertices with respect to the current tile.
20 A trivial discard of the triangle data occurs if the
region bits indicate that the entire triangle lies
outside of the tile. Subsequently, an initial
rasterization starting point is estimated based on the
region bits to lower the time needed for the rasterizer
25 to find the first pixel of the current triangle to be
assigned values.